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10/566,510	01/30/2006	Antonius Adriaan Maria Staring	NL303963	7328

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EXAMINER
LAFORGIA, CHRISTIAN A

ART UNIT	PAPER NUMBER
2131	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>30 January 2006</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-13</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-13</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>30 January 2006</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some *   c) ☐ None of:

       1. ☐ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-13 have been presented for examination.

Priority

2.   Acknowledgment is made of applicant's claim for foreign priority. ***Drawings***

3.   Figure 1 should be designated by a legend such as --Prior Art-- because only that which is

old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR

1.121(d) are required in reply to the Office action to avoid abandonment of the application. The

replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR

1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted

by the examiner, the applicant will be notified and informed of any required corrective action in

the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4.   The abstract of the disclosure does not commence on a separate sheet in accordance with

37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a

separate sheet, apart from any other text.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

6.   Claim 13 is rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter. As per claim 13, merely claimed as a computer program

representing a computer listing *per se*, that is, descriptions or expressions of such a program and

that is, descriptive material *per se*, non-functional descriptive material, and is not statutory

because it is not a physical "thing" nor a statutory process, as there are not "acts" being

performed. Such claimed computer programs do not define any structural and functional

interrelationships between the computer program and other claimed aspects of the invention

which permit the computer program's functionality to be realized. Since a computer program is

merely a set of instructions capable of being executed by a computer, the program itself is not a

process, without the computer-readable medium needed to realize the computer program's

functionality. In contrast, a claimed computer-readable medium encoded with a computer

program defines structural and functional interrelationships between the computer program and

the medium which permit the computer program's functionality to be realized, and is thus

statutory. **Warmerdam**, 33 F.3d at 1361, 31 USPQ2d at 1760. **In re Sarkar**, 588 F.2d 1330,

1333, 200 USPQ 132, 137 (CCPA 1978). See MPEP § 2106(IV)(B)(1)(a).

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on
> sale in this country, more than one year prior to the date of application for patent in the United States.

8.   Claims 1-3 and 6-13 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S.

Patent Application Publication No. 2003/0091186 to Fontijn et al., hereinafter Fontijn.

9.   As per claim 1, Fontijn teaches a record carrier (Figures 1, 4, [block 4]) for storing user

data in sectors (paragraph 0003) and management information associated with said sectors

(paragraph 0022, i.e. initialization vector stored in each header or sub-header of each

block/sector), wherein said management information comprises an encryption indication

information indicating that the user data stored in the associated sector are to be encrypted by a

read-out device before being transmitted over a communication bus (paragraphs 0022, 0024, i.e.

initialization vector can be used to contain encryption control information, re-encryption key

data information is included in a read command).

10.   Regarding claim 2, Fontijn teaches wherein said management information is stored in a

sector header or in an additional sub-code channel (paragraph 0022, i.e. initialization vector

stored in each header or sub-header of each block/sector).

11.   Regarding claim 3, Fontijn teaches wherein said management information further

comprises an encryption amount information indicating which part or parts of the user data

stored in the associated sector are to be encrypted (paragraphs 0022, 0024, i.e. initialization

vector can be used to contain encryption control information).

12.   Regarding claim 6, Fontijn teaches wherein said management information further

comprises a decryption indication information indicating that the user data stored in the

associated sector are to be decrypted by the read-out device before being encrypted again for

transmission over said communication bus (paragraph 0048, i.e. data is decrypted and than re-

encrypted).

13.   With regards to claim 7, Fontijn teaches wherein a decryption key for decryption of the

user data is dependent on at least the encryption indication information (paragraphs 0039, 0040).

14.   As per claims 8 and 9, Fontijn teaches a read-out device and method for reading data

from a record carrier (Figures 1, 4, [block 4]) storing user data in sectors (paragraph 0003) and

management information associated with said sectors (paragraph 0022, i.e. initialization vector

stored in each header or sub-header of each block/sector), wherein said management information

comprises an encryption indication information indicating that the user data stored in the

associated sector are to be encrypted by a read-out device before being transmitted over a

communication bus (paragraphs 0022, 0024, i.e. initialization vector can be used to contain

encryption control information, re-encryption key data information is included in a read

command), comprising:

        a reading unit for reading said user data and said management information from said

record carrier (Figures 1 and 4 [block 5], paragraphs 0036, 0037),

        a data interpreter for interpreting said management information (paragraphs 0039, 0040,

· i.e. determining if the data is encrypted or not, determining a decryption key corresponds to the

encryption key),

        an encryption unit for encrypting user data of sectors for which the associated encryption

indication information indicates that said user data are to be encrypted (Figure 4 [block 10],

paragraphs 0022, 0048), and

        an output unit for outputting said user data (Figure 4 [block 26], paragraph 0048).

15.   As per claims 10 and 11, Fontijn teaches a recording device and method for recording

data on a record carrier comprising:

an input unit for receiving user data and a command to record said user data in sectors on

a record carrier from a communication bus (Figure 5 [block 34], paragraphs 0014, 0051),

a command interpreter for interpreting said command so as to identify a decryption

indication information included therein indicating which parts of the received user data are

encrypted and are to be decrypted before recording on said record carrier (Figure 5 [block 34],

paragraphs 0014, 0051),

a decryption unit for decrypting the parts of said user data for which the associated

decryption indication information indicates that they are encrypted and are to be decrypted

before recording on said record carrier (Figures 1 and 4 [block 8], paragraphs 0040, 0048), and

a write unit for recording said user data in sectors on said record carrier and a

management information associated with said sectors (Figure 5 [block 34], paragraphs 0014,

0051) comprising an encryption indication information indicating that user data stored in sectors

associated with said management information are to be encrypted by a read-out device before

transmission over a communication bus (Figure 4 [block 10], paragraphs 0022, 0048),).

16.   Regarding claim 12, Fontijn teaches an encryption indication information and that a

decryption key for decryption of the user data is dependent on said encryption indication

information (paragraphs 0039, 0040).

17.   Regarding claim 13, Fontijn teaches a computer program comprising program code

means for causing a computer to carry out the steps of the methods as claimed in claim 9 when

said computer program is executed on a computer (paragraph 0017).

Claim Rejections - 35 USC § 103

18.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

19.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fontijn in view of

U.S. Patent No. 6,378,072 to Collins et al., hereinafter Collins.

20.   Regarding claim 4, Fontijn does not teach an encryption algorithm information indicating

which encryption algorithm is to be used for encryption.

21.   Collins discloses using a plurality of encryption algorithms to secure a communications

bus (column 6, lines 5-27).

22.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to include an encryption algorithm information indicating which encryption algorithm

is to be used for encryption, since it would have provided a multitude of methods to secure the

communication bus against unwanted access during transmission (Fontijn, paragraph 0018).

23.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fontijn in view of

U.S. Patent Application Publication No. 2003/0159037 to Taki et al., hereinafter Taki.

24.   Regarding claim 5, Fontijn does not teach a key-hierarchy information indicating which

key-hierarchy is to be used for determination of an encryption key to be used for encryption.

25.   Taki teaches a key-hierarchy information indicating which key-hierarchy is to be used for

determination of a content key (Figures 4, 8, 23, paragraph 0001).

26.   It would have been obvious to one of ordinary skill in the art at the time the invention

was made to include a key-hierarchy information indicating which key-hierarchy is to be used

for determination of an encryption key to be used for encryption, since Taki states at paragraph

0001 that a key hierarchy is used for digital rights management and to ensure authorized use of

the content.

Conclusion

27.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

28.   The following patents are cited to further show the state of the art with respect to bus

encryption, such as:

United States Patent Application Publication No. 2003/0091187 A1 to Fontijn et al.,

which is cited to show a co-pending application to the one used to reject the independent claims.

United States Patent No. 7,111,169 B2 to Ripley et al., which is cited to show encrypting

data on a peripheral bus that was read from a storage medium, such as a DVD or CD.

United States Patent Application Publication No. 2002/0003880 A1 to Kato et al., which

is cited to show protecting against the unauthorized copying of multimedia data.

United States Patent No. 6,301,663 B1 to Kato et al., which is cited to show protecting

against the unauthorized copying of multimedia data.

United States Patent Application Publication No. 2004/0190424 A1 to Kawamae et al.,

which is cited to show encrypting data on a PCI bus from a drive to a decoder when

reproducing/recording data.

United States Patent No. 7,116,893 B2 to Kawamae et al., which is cited to show

encrypting data on a PCI bus from a drive to a decoder when reproducing/recording data.

United States Patent No. 6,778,757 to Kawamae et al., which is cited to show encrypting

data on a PCI bus from a drive to a decoder when reproducing/recording data.

United States Patent No. 6,578,149 to Kawamae et al., which is cited to show a typical

sector format in Figure 4.

United States Patent No. 6,438,692 to Kato et al., which is cited to show protecting

against the unauthorized copying of multimedia data.

29.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Christian La Forgia whose telephone number is (571) 272-3792.

The examiner can normally be reached on Monday thru Thursday 7-5.

30.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

31.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2131

Christian LaForgia
Patent Examiner
Art Unit 2131

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